

CLAIMS

What is claimed is:

1. An apparatus and method for automatically placing and removing a sterile glove on a hand, comprising:

5 a housing, said housing <sup>comprising</sup> ~~consisting~~ of a glove application door panel, a left sidewall, top sidewall, glove removal door panel, right sidewall, and bottom sidewall bolted or welded together from sheets of stainless steel;

a compressor,

10 a glove applicator assembly, said glove applicator assembly consisting of a stainless steel housing, support ring, a housing forward sidewall, trim ring, glove applicator sensor, and glove on sensor;

a circuit board,

a plurality of heating coils,

15 a removal cuff, said removal cuff located on an inner surface of said door panel mounted over an aperture formed therethrough specifically for removing gloves from a gloved hand after use;

a biohazard waste bin, said biohazard waste bin located in the bottom right side of said housing and directly beneath said removal cuff

for catching gloves just removed by said removal cuff;

*and*  
a hydraulic lift<sub>x</sub> for supporting gloves.

2. The apparatus and method for automatically placing and removing sterile gloves on the hand of Claim 1, wherein said housing is segregated by

a vertical divider, said divider vertically segregating said housing into a left and right compartment;

a pair of applicator enclosures, said applicator enclosures being installed in said left compartment and each being comprised of two vertical sidewalls made from stainless steel separated by another sidewall and whereby said applicator enclosures are placed parallel to each other in said housing separated by a gap;

a horizontal divider, said horizontal divider dividing said right compartment into an upper volume and a lower volume <sup>wherein</sup> ~~wherein~~ said compressor is located within said upper volume and said horizontal divider also serves as a surface whereby said compressor is permanently mounted, and further, said lower volume is adapted to receive said biohazard bin.

3. The apparatus and method for automatically placing and removing sterile gloves on the hand of Claim 1, wherein  
5 a pair of apertures are formed in said glove applicator door panel to allow a user to insert their hands into the interior of said housing and into said glove applicator assemblies.

4. The apparatus and method for automatically placing and removing sterile gloves on the hand of Claim 3, wherein an aperture is  
10 formed in said glove removal door panel <sup>to</sup> allow one to insert a gloved hand into said housing and into said removal cuff.

5. The apparatus and method for automatically placing and removing sterile gloves on the hand of Claim 4, wherein one of said glove  
15 applicator assembly is located in each of said enclosures within the gap formed between said sidewalls and positioned so that the circular aperture on the front of said glove applicator assembly is aligned concentrically with the respective circular aperture formed through said door panel.

6. The apparatus and method for automatically placing and removing sterile gloves on the hand of Claim 5, wherein said biohazard waste bin is hingably attached along a lower front edge so that said biohazard waste bin can be tilted forward to allow for cleaning and removal of bio waste, and further, wherein an elongated semi-circular slot located in an outer sidewall of said biohazard waste bin is provided for slidably receiving a pin fixed to said sidewall to ensure alignment and a smooth back and forth tilting motion of said biohazard waste bin.

7. The apparatus and method for automatically placing and removing sterile gloves on the hand of Claim 6, wherein said glove applicator assembly is comprised of:

a stainless steel housing;

a housing forward sidewall;

a trim ring, said trim ring located on an outer surface of said housing forward sidewall and positioned concentrically over an aperture specifically formed therethrough;

a support ring, said support ring mounted on an inner surface of said housing forward sidewall.

8. The apparatus and method for automatically placing and removing sterile gloves on the hand of Claim 7, wherein said support ring is of a multi-piece band construction so that it can radially expand and contract as said support ring is pushed into and pulled out of the mouth of said sterile glove and wherein warm , pressurized air coming from the ends of a plurality of inflation nozzles mounted on said support ring would enter and inflate said sterile glove allowing the user's hand to enter said sterile glove more easily.

9. The apparatus and method for automatically placing and removing sterile gloves on the hand of Claim 8, wherein a plurality of tabs protruding perpendicularly from said inner surface of said housing forward sidewall provide the framework for mounting said support ring and wherein an elongated slot formed in each of said tabs receives a pin with an elongated shaft protruding radially from the outer circumference of said support ring so that said support ring is free to traverse linearly in a forwards and backwards motion the length of said elongated slots.

10. The apparatus and method for automatically placing and

removing sterile gloves on the hand of Claim 9, wherein said support ring is free to radially expand and contract as said elongated shaft of said pins slide perpendicularly through said elongated slots in said tabs, and wherein a small electromechanical solenoid and linkages mounted on said support ring provide the necessary mechanical force to effect a cyclic compression and expansion of said support ring as well as a linear insertion and retraction of said support ring into the open mouth of a sterile glove.

11. The apparatus and method for automatically placing and removing sterile gloves on the hand of Claim 10, wherein the glove application sequence is activated by a motion sensitive glove applicator sensor mounted on an inner circumference of said trim ring and wherein a box of pre-packed sterile gloves is pre-loaded beneath said housing and protrudes into said housing through an open bottom.

12. The apparatus and method for automatically placing and removing sterile gloves on the hand of Claim 11, wherein a simple mechanism to grab the top most glove from a box of sterile pre-packed

gloves prepares said sterile gloves for insertion onto said support ring and is triggered by said glove application sensor, and wherein, at the same time, said compressor along with a heating coil are activated for supplying warm pressurized air to said plurality of inflation nozzles.

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13. The apparatus and method for automatically placing and removing sterile gloves on the hand of Claim 12, wherein said plurality of inflation nozzles include:

a center inflation nozzle, said center inflation nozzle being fixed and remaining stationary while pressurized air is on;

a pair of sliding nozzles, said pair of sliding nozzles being free to rotate radially around an inner circumference of said support ring since said nozzles are slidably attached to said support ring via an o-ring with an attached tab slidably inserted into an annular slot on an inner circumference of said support ring, and wherein a small aperture located in a lower side of said sliding inflation nozzles is directed downward to provide the necessary force to propel said sliding nozzles radially around said inner circumference of said support ring so that when pressurized, said sliding inflation nozzles are spaced evenly radially around ~~support~~

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said support ring;

and wherein rubber tubing carries pressurized air from said compressor to said center inflation nozzle and said pair of sliding nozzles.

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